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(54) Title: PROGRAMMABLE AUTOMATIC INVOCATION OF TELECOMMUNICATIONS SERVICES
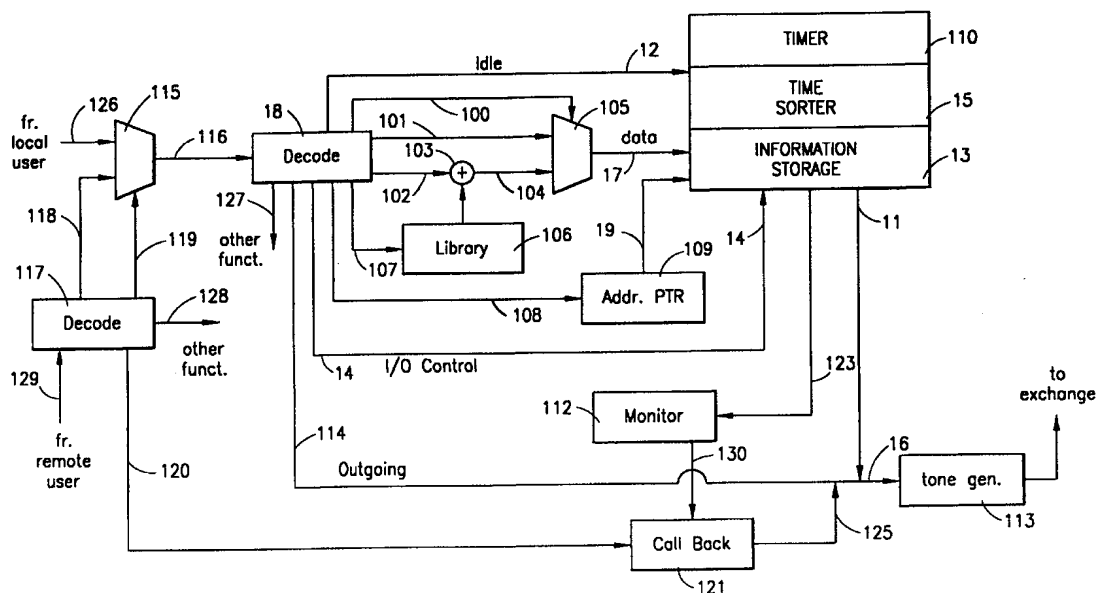
(57) Abstract

A telecommunications station (23, 31) invokes services from a remotely coupled telecommunications service provider (21, 32). The telecommunications station is user–programmable (126, 129) and can automatically invoke at the remote provider any desired service (75) at any desired time (73).

PROGRAMMABLE AUTOMATIC INVOCATION OF TELECOMMUNICATIONS SERVICES

FIELD OF THE INVENTION

5   The invention relates generally to accessing telephone network services and,

more particularly, to programmable automatic access of telephone network services

from a remote telecommunication station.

BACKGROUND OF THE INVENTION

10   Conventional telephone networks typically offer a variety of subscriber

services provided by a central switching center (also called a switch or exchange) of

the telephone network. For example, conventional services provided by Plain Old

Telephony Services (POTS) include abbreviated dialing, automatic alarm call, absent

subscriber service, call waiting, call diversion protection, call forwarding busy, call

15   forwarding fixed list, call forwarding no reply, call forwarding unconditional, do not

disturb, outgoing call barring, selective call identity, selective call forwarding

unconditional, and three party conference call. Conventional ISDN (Integrated

Services Digital Network) services include, for example, announcement service for

incoming calls and barring service for incoming calls.

20   It is conventional to invoke telecommunications services such as those listed

above from a remote telecommunication station coupled to the telephone network. In

this conventional practice, however, the user of the remote station must be available

to operate the remote station at the time that invocation of the service is desired. That

is, if a particular service is to be invoked at a particular time on a particular day, then

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the user must be available to operate the remote telecommunication station at that particular time of that particular day in order to invoke the desired service.

Another conventional practice is to use a remote telecommunication station to program a date, time and desired service into the telephone switch or exchange that

5   provides the service. The switch will then automatically invoke the service at the programmed time on the programmed day. Such programming of the telephone switch disadvantageously requires undesirable complexity in the telephone switch logic, particularly if it is desired to pre-program the invocation of many different available services for many different remote stations. Also, network capacity must be

10   used to couple the remote station to the appropriate facilities of the switch for every instance of programming.

The present invention overcomes the aforementioned disadvantages of the conventional practices by providing for programmable automatic invocation of telephone network services from a remote telecommunication station coupled to the

15   network.

BRIEF DESCRIPTION OF THE DRAWINGS

FIGURE 1 illustrates diagrammatically a personal intelligent network (PIN) which provides for programmable automatic invocation of telephone network services

20   from a remote telecommunication station according to the present invention.

FIGURE 2 diagrammatically illustrates a telephone exchange coupled to a telecommunication station which is located remotely from the telephone exchange and which includes the personal intelligent network of FIGURE 1.

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FIGURE 3 diagrammatically illustrates a wall jack which couples a telephone exchange to a remotely positioned telecommunication station and which also includes the personal intelligent network of FIGURE 1.

FIGURE 4 illustrates the format of a typical entry in the storage apparatus of FIGURE 1.

FIGURE 5 illustrates a specific example of an entry having the format of FIGURE 4.

FIGURE 6 is a flow diagram which illustrates example operations of the PIN of FIGURE 1.

FIGURE 7 is a flow diagram which illustrates example operations of the time sorter of FIGURE 1.DETAILED DESCRIPTION

FIGURE 1 illustrates diagrammatically an example implementation of a personal intelligent network (PIN) according to the invention. The personal intelligent network circuitry of FIGURE 1 can be provided in a telecommunications station, for example a telephone, or in a wall jack through which such a station communicates with a telephone exchange.

FIGURE 2 illustrates the personal intelligent network provided in a telecommunication station 23, and FIGURE 3 illustrates the personal intelligent network provided in a wall jack 33. In FIGURE 2, reference numeral 25 designates a conventional telecommunications network (wireline or wireless) coupling the exchange 21 to the remote station 23. In FIGURE 3, reference numerals 35 and 37, along with the jack 33 itself, designate a conventional telecommunications network coupling the exchange 32 to the remote station 31.

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Referring again to FIGURE 1, the personal intelligent network illustrated therein includes an information storage apparatus 13, for example a memory device, into which are programed the desired telephone network services and the desired time and date of their invocation. The information storage apparatus 13 includes a data input 17, an address input 19, an I/O control input 14 and a data output 11.

FIGURE 4 illustrates one exemplary format of entries in the information storage apparatus 13. These entries are stored in apparatus 13 at respective addressable locations designated by addresses at address input 19, and comprise data provided at data input 17. As shown in FIGURE 4, a typical entry includes a service portion, a time portion and a date portion. The service portion includes a coded version of the sequence of characters required to be keyed in to invoke a service provided in the remote telephone exchange (e.g., 21 in FIGURE 2). The date portion of the entry in FIGURE 4 includes data indicative of the day of the year on which the service is to be invoked, and the time portion of the entry in FIGURE 4 includes data indicative of the time of day at which the desired service is to be invoked.

FIGURE 5 illustrates one specific example of the entry format shown in FIGURE 4. In FIGURE 5, the service portion of the entry includes the coded characters that must be keyed in to invoke forwarding of calls to another desired destination station. The remainder of the entry in FIGURE 5 indicates that the call forwarding service is to be invoked at 8 o'clock in the morning (time portion) on July 16, 1998 (date portion).

Returning again to FIGURE 1, a time sorter 15 is coupled to the information storage apparatus 13. The time sorter operates to sort the entries in the storage apparatus 13 in chronological order according to the time and date that the services in

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the respective entries are to be invoked. The time sorter 15 includes an input 12, and

is also appropriately coupled to storage apparatus 13 so as to be capable of accessing

the addressable entries in information storage apparatus 13.

A decoder 18 in FIGURE 1 receives a user input at 116. The user input at 116

5   can be conventional signaling produced by the user pushing the keypad buttons of the

telecommunication station. As will be discussed in further detail below, the user input

at 116 can be received either from a local user operating the keypad of the

telecommunication station associated with the personal intelligent network of FIGURE

1, or from a user accessing the personal intelligent network from another, remotely

10   located telecommunication station. A selector 115 provides at the user input 116 of

decoder 18 either a local user input 126 or a remote user input 118.

If the decoder 18 determines that the user input is simply an outgoing call, then

the decoder 18 passes the user input 116 directly to output 114, which is coupled to

the input 16 of a conventional tone generator 113. The tone generator 113 then

15   accesses the telephone exchange to set up the desired outgoing call. Similarly, if the

decoder 18 determines that the user input 116 is directed to a function other than

outgoing calls or the personal intelligent network, then the decoder passes the user

input 116 to that desired function, as illustrated at 127.

If the decoder 18 determines that the user input 116 is directed to program an

20   entry or entries into the memory 13, then the decoder 18 outputs appropriate control

signals to accomplish the desired programming. The user input 116 may designate the

entry in its entirety, including the service portion, the time portion and the date

portion, or alternatively, the user input 116 may designate only the time and the date

portions, or only the date portion. When the user input 116 does not designate the

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entry in its entirety, the user input at 116 designates a storage location in a library 106, at which location can be found the remainder of the desired entry. Thus, the library 106 can be pre-programmed (via user input 116, decoder 18 and library input 107) to include frequently used service portions and/or service portion/time portion combinations, so that the user input 116 need only supply the time and date portions along with the library address of the desired service portion, or only the date portion and the library address of the desired service portion/time portion combination. Although library 106 is shown separately from the information storage apparatus 13, it should be understood that the library 106 can be a portion of the information storage apparatus 13.

As described above, the library 106 advantageously permits the user input 116 to be abbreviated when a frequently used service is to be invoked. For example, if the user frequently forwards calls to his or her office telephone, then the entire keypad sequence for invoking such call forwarding service can be stored in library 106, so the user input 116 can simply indicate the address where this sequence is stored in the library 106 (rather than indicating the entire sequence), along with the desired date and time information. Moreover, if the user frequently invokes call forwarding to the office at a particular time of day, then both the service portion for call forwarding to the office and the associated time portion can be pre-stored in the library so that the user input 116 need only identify this pre-stored service/time combination and the desired date on which the service is to be invoked.

As one example, if the user input 116 designates an entry from library 106, then the decoder extracts the appropriate addressing information from the user input 116 and applies this information to input 107 of the library 106. The decoder 18 also

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extracts the time and date information from the user input 116, and outputs this at 102.

At appender 103, the time and date information from 102 is appended to the service

information obtained from library 106, thus producing at output 104 a complete entry,

including service portion, time portion and date portion. Also when the library

5   function is designated by user input 116, the decoder 18 signals selector 105 via

signaling path 100 to select output 104 for connection to the data input 17 of the

information storage apparatus 13.

If the user input 116 indicates that programming is desired and designates an

entire entry including service portion, time portion and date portion, then the decoder

10   118 passes the entire entry to output 101 and controls selector 105 via control line 100

to select output 101 for connection to the data input 17 of the information storage

apparatus 13.

With each new entry to be programed into information storage apparatus 13,

the decoder activates output 108 to signal an address pointer 109 to increment the

15   storage apparatus address input 19. Decoder 18 also provides to storage apparatus 13

a write control signal on I/O control bus 14 to control writing the data at 17 into the

storage apparatus location designated by address input 19.

The time sorter 15 operates to sort chronologically the entries in the

information storage apparatus 13, and identify the next-in-time entry. The time sorter

20   15 includes a timer 110 with which to monitor the passage of time, both the time of

day and day of year. At the date and time designated in the next-in-time entry, the

time sorter 15 causes the service portion of the next-in-time entry to be output at 11

from the information storage apparatus 13. This output 11 is coupled to the input 16

of the tone generator 113. Tone generator 113 converts the coded character sequence

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of the service portion into a sequence of corresponding tones (as is done in conventional speed dialing), whereby the desired service information can be provided to the remote telephone exchange to invoke the desired service.

Note that invocation of a service as used herein includes invoking either (1) the service or (2) a cancellation of the service. For example, one entry for a given date might activate call forwarding to an office at 9AM, and another entry for that same date might cancel the call forwarding at 6PM.

After the user has programmed the information storage apparatus 13 as desired, the user may wish to receive confirmation that the desired programming has indeed occurred. If the user input 116 indicates that such confirmation is desired, then the decoder 18 activates I/O control output 14 (i.e., read control) and output 108 appropriately to provide the desired entry on an output 123 for processing by a conventional monitor arrangement 112. If the user has just programmed a series of entries into the storage apparatus 13, then the user input 116 may indicate that all of the just-programed entries are to be confirmed at monitor 112, in which case the decoder 18 uses line 108 to decrement the address pointer appropriately to confirm as many previously programmed entries as desired. The monitor arrangement 112 may simply provide a visual display of the entry. Alternatively the monitor 112 may provide an audio confirmation of the entry. In the latter instance, the monitoring arrangement 112 would include a speaker and a speech translator/synthesizer to produce an appropriate speech description of the entry.

A decoder 117 controls the remote access functionality of the personal intelligent network of FIGURE 1. When a call is received from a remote station, the decoder 117 initially determines whether or not the personal intelligent network is to

be accessed. If the remote user input 129 indicates that the personal intelligent network is not to be accessed, then the decoder routes the incoming call to whatever function is desired, as indicated at 128. If the incoming call indicates that the personal intelligent network is to be accessed, then the decoder uses output 119 to control

5　　selector 115 such that the decoder output 118 is coupled to the user input 116 of decoder 18, and the decoder 117 also couples the remote user input 129 directly to the user input 116 via signal path 118 and selector 115. Once the remote user input at 129 has been coupled to the user input 116 of decoder 18, the operation of the personal intelligent network of FIGURE 1 is the same as described above with respect to the

10　　local user input 126.

If the remote user desires confirmation that the requested entries have in fact been programmed into the storage apparatus 13, the decoder 117 uses output 120 to enable a conventional call back circuit 121 which will call the remote user back once the remote user has disconnected from the personal intelligent network of FIGURE 1.

15　　The entry (or speech description thereof) is available at 130 to the call back circuit 121 from monitor arrangement 112, and is appended to the call back number at call back circuit 121. The output 125 of the call back circuit is coupled to the input 16 of tone generator 113. The remote user can thus be called back by operation of the call back function 121, and provided with the entry (or speech description) to be seen (or heard)

20　　by the remote user. Once the call is set up to the remote user, the entry (or speech description) is provided thereto for use at the remote telecommunication station.

FIGURE 6 illustrates exemplary operations of the personal intelligent network of FIGURE 1. When a user input is received at 61 (see 116 in FIGURE 1), the decoder 18 of FIGURE 1 determines at 62 whether or not the personal intelligent

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network is being accessed. If not, then the user input is handled conventionally at 63 (see 114 and 127 in FIGURE 1). If the personal intelligent network is being accessed at 62, then at 64 the decoder 18 of FIGURE 1 sets the time sorter 15 to an idle state (via control line 12 of FIGURE 1) so that no services are automatically invoked by the personal intelligent network while it is being programmed. Thereafter, at 65, the decoder 18 determines from the user input whether or not the library 106 is to be accessed. If not, then at 66 the desired entry is received in its entirety from the user input, including the service portion, the date portion and the time portion. Thereafter at 69 the entry is stored in the storage apparatus 13 of FIGURE 1.

If it is determined at 65 that the library 106 is to be accessed, then the decoder 18 outputs control signal 107 to access the appropriate location in library 106 in order to obtain at 67 the portion or portions of the desired entry that have been pre-stored in the library 106. At 68, the desired entry is constructed by appending the entry portion/portions received from the user input 116 to the entry portions/portion received from the library 106 (see 103 in FIGURE 1). After the desired entry has been constructed at 68, this entry is at 69 stored in the storage apparatus 13. Thereafter, at 601, the decoder 18 increments the address pointer 109, and then determines at 602 whether the user input indicates more entries to be stored. If so, then control returns to step 65 and proceeds as described above.

After all desired entries have been stored (see 602), the decoder 18 determines at 603 whether or not the user input has requested confirmation of the programming, for example by a visual display of (or synthesized speech describing) the programmed data. If not, then the idle signal 12 is removed from time sorter 15 at 609, and the next user input is awaited at 61. If confirmation has been requested at 603, then at 604 the

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current address at 19 in FIGURE 1 is stored. For example, the control output 108 of

decoder 18 can cause the address pointer 109 to temporarily store the current address.

At 605, the decoder uses control output 108 to decrement the address at 19. The last-

programmed entry can then be provided for audible/visible confirmation at 606. It is

5   thereafter determined at 607 whether or not confirmation of additional entries has been

requested. If so, then control returns to 605 and the procedure described above is

repeated. When it is determined at 607 that there are no more entries to be confirmed,

the current address which was stored at 604 can be re-established at 608 by

appropriately incrementing the address pointer 109 until the address pointer output 19

10   matches the previously stored address value (see 604). After the current address has

been restored at 608, the idle signal 12 is removed from time sorter 15 at 609, and the

next user input is awaited at 61.

FIGURE 7 illustrates exemplary operations of the time sorter 15 of FIGURE

1. If the idle signal 12 of FIGURE 1 is inactive at 70, the time sorter proceeds to 71

15   and sorts the entries in the storage apparatus 13 by comparing their date and time

portions to the current date and time given by timer 110 in FIGURE 1. From these

comparisons the time sorter identifies the next-in-time entry, that is, the entry whose

date and time portions represent a future point in time closest to the actual current

point in time as indicated by the timer 110. After the next-in-time entry has been

20   identified at 71, the time sorter monitors the current date and time until the current

date and time matches the time defined by the date and time portions of the next-in-

time entry. That is, the time sorter waits until it is time to invoke the service defined

in the next-in-time entry. As shown at 74, if the idle signal 12 becomes active while

waiting at 73 (meaning that programming of the PIN is occurring), then the time sorter

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will wait at 70 until the current programming is complete, and then sort again at 71. When the service invocation time arrives (73), at 75 the time sorter 15 causes the service portion of the next-in-time entry to be output at 11 from storage apparatus 13. Thereafter at 77, the time sorter 15 deletes the entry from the storage apparatus 13.

Alternatively, the time sorter 15 can periodically clear all entries from the storage apparatus 13, for example, at 12 midnight each day, or at the end of each week or month.

In other embodiments, the date portion of one or more entries defines a plurality of dates. One example entry could include a range of five consecutive dates, another example entry could include dates corresponding to five consecutive Tuesdays, and other entries could include date portions designating "everyday" "every working day", "every Monday", etc. In such cases where plural dates are defined in the entry, the service represented by the service portion of that entry will be invoked at the given time on each of the plural days specified.

The invention thus permits a remote telecommunication station to automatically invoke a desired service at a desired time, in a manner that appears to the remote exchange as if the user is actually contemporaneously keying in the invocation request himself. Advantageously, the user can pre-program this activity, and need not be present at the remote station at the invocation time, and no modifications or storage burdens are necessary at the remote exchange.

It will be evident to workers in the art that the above-described embodiments of the personal intelligent network are readily implemented using, for example, a suitably programmed data processor circuit of the same general type used in

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conventional telecommunication devices, or such data processor combined with other

logic circuits well-known in such telecommunication devices.

Although exemplary embodiments of the present invention have been

described above in detail, this does not limit the scope of the invention, which can be

5   practiced in a variety of embodiments.

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WHAT IS CLAIMED IS:

1.   A telecommunication apparatus for invoking a service at a remotely coupled telecommunications service provider, comprising:

an input for receiving input signaling from a user of the apparatus;

an output for outputting to the telecommunications service provider output signaling that causes the provider to provide a desired service; and

circuitry coupled between said input and said output and programmable in response to said input signaling for automatically producing said output signaling later, at a predetermined point in time designated for invocation of the desired service.

2.   The apparatus of Claim 1, wherein said circuitry includes an information storer coupled to said input, said information storer for storing information indicative of services to be invoked at the remotely coupled provider and invocation times at which the respective services are to be invoked.

3.   The apparatus of Claim 2, including a time sorter coupled to said information storer for accessing said information in said information storer and sorting the services in chronological order according to their respective invocation times.

4.   The apparatus of Claim 3, wherein said time sorter includes a timer for monitoring current time and passage of time.

5.   The apparatus of Claim 2, wherein said information storer includes a plurality of addressable storage locations for storing respective entries, each said entry

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including a service portion indicative of a service to be invoked and an invocation time

portion indicative of a desired invocation time for the service to be invoked.

6.   The apparatus of Claim 5, wherein each said entry includes a date

portion indicative of a desired invocation date for the associated service.

7.   The apparatus of Claim 6, wherein said service portion, said time

portion and said date portion of one said entry are provided to said input in said input

signaling.

8.   The apparatus of Claim 5, wherein said service portion and said time

portion of one said entry are provided to said input in said input signaling.

9.   The apparatus of Claim 5, wherein said circuitry includes a storage

location which outputs said service portion of one said entry to said information storer

in response to said user input signaling.

10.   The apparatus of Claim 9, wherein said storage location provides both

said service portion and said time portion of said one entry to said information storer

in response to said input signaling.

11.   The apparatus of Claim 10, wherein said one entry includes a date

portion indicative of an invocation date for the associated service, said date portion

provided at said input in said input signaling, said circuitry including an appender for

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appending said service portion and time portion as provided by said storage location

to said date portion as provided in said input signaling to construct said one entry for

storage in the information storer.

5   12.   The apparatus of Claim 9, wherein said time portion of said one entry

is provided to said input in said input signaling, said circuitry further including an

appender for appending said service portion as output from said storage location to

said time portion as provided in said input signaling to construct said one entry for

storage in the information storer.

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13.   The apparatus of Claim 12, wherein said one entry includes a date

portion indicative of an invocation date for the associated service, said date portion

provided at said input in said user input signaling, said appender for appending said

service portion as output from said storage location to said date portion and said time

15   portion as provided in said input signaling to construct said one entry for storage in

said information storer.

14.   The apparatus of Claim 2, including a monitor apparatus coupled to

said input and said information storer, said monitor apparatus responsive to said input

20   signaling to provide an indication of whether said information is stored in said

information storer.

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15.   The apparatus of Claim 1, including a selector for permitting said input to receive said input signaling from either one of a local user input and a remote user input.

5   16.   A method of invoking a service at a telecommunications service provider from a telecommunication station remotely coupled to the service provider, comprising:

receiving at the telecommunication station input signaling from a user of the telecommunication station;

10   in response to the input signaling, programming the telecommunication station to automatically output to the service provider at a desired time output signaling that causes the service provider to invoke a desired service; and

after said programming step, at the desired time, automatically outputting the output signaling from the telecommunication station to the service

15   provider.

17.   The apparatus of Claim 16, wherein said step of automatically outputting includes monitoring the passage of time.

20   18.   The method of Claim 16, wherein said programming step includes storing in the telecommunication station information indicative of services to be invoked at the remote service provider and invocation times at which the respective services are to be invoked.

19.   The method of Claim 18, wherein said step of automatically outputting includes sorting the services in chronological order according to their respective invocation times.

5   20.   The method of Claim 19, wherein said sorting step includes obtaining knowledge of the current time.

21.   The method of Claim 18, wherein said storing step includes storing in a storage apparatus an information entry including a service portion indicative of a

10   service to be invoked and an invocation time portion indicative of an invocation time for the service to be invoked.

22.   The method of Claim 21, wherein said receiving step includes receiving said service portion and said time portion from the user in said input signaling.

15

23.   The method of Claim 22, wherein said entry includes a date portion indicative of a date on which the corresponding service is to be invoked.

24.   The method of Claim 23, wherein said receiving step includes receiving

20   said service portion, said time portion and said date portion from the user in said input signaling.

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25.   The method of Claim 21, wherein said programming step includes obtaining said service portion from a storage location in the telecommunication station.

5   26.   The method of Claim 25, wherein said receiving step includes receiving the time portion from the user in said input signaling, and wherein said programming step includes constructing the entry by appending the service portion as obtained from the storage location to the time portion as received in the input signaling.

10   27.   The method of Claim 21, wherein said programming step includes obtaining the service portion and the time portion from a storage location in the telecommunication station.

28.   The method of Claim 27, wherein the entry includes a date portion

15   indicative of a date on which the corresponding service is to be invoked, wherein said receiving step includes receiving the date portion from the user in said input signaling, and wherein said programming step includes constructing the entry by appending the service portion and the time portion as obtained from the storage location to the date portion as received in the input signaling.

20

29.   The method of Claim 18, including providing an indication of whether the information was stored in said storing step.
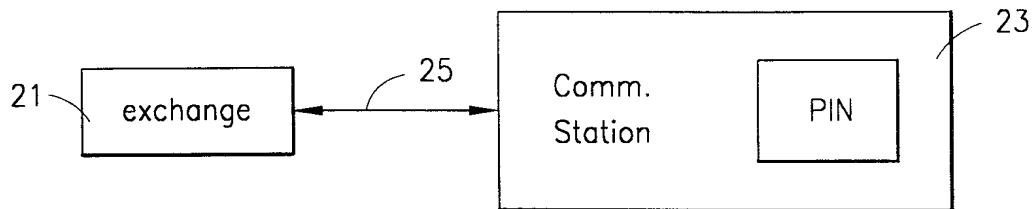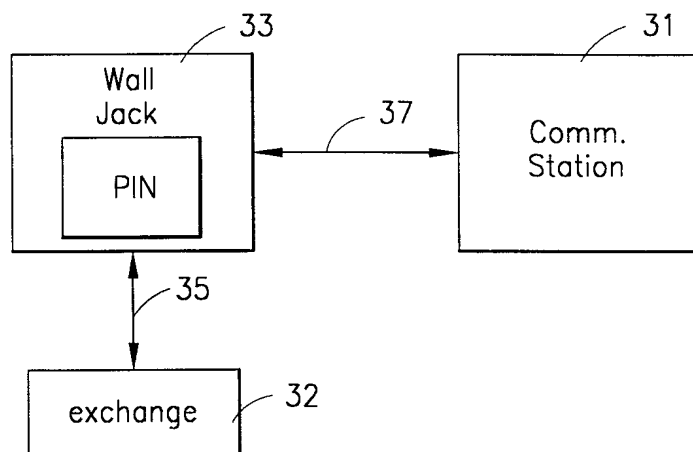
-20-

30. The method of Claim 16, wherein said receiving step includes selecting one of a local user physically present at the telecommunication station and a remote user physically remote from the telecommunication station, and receiving the input signaling from the selected one of said local user and said remote user.

5
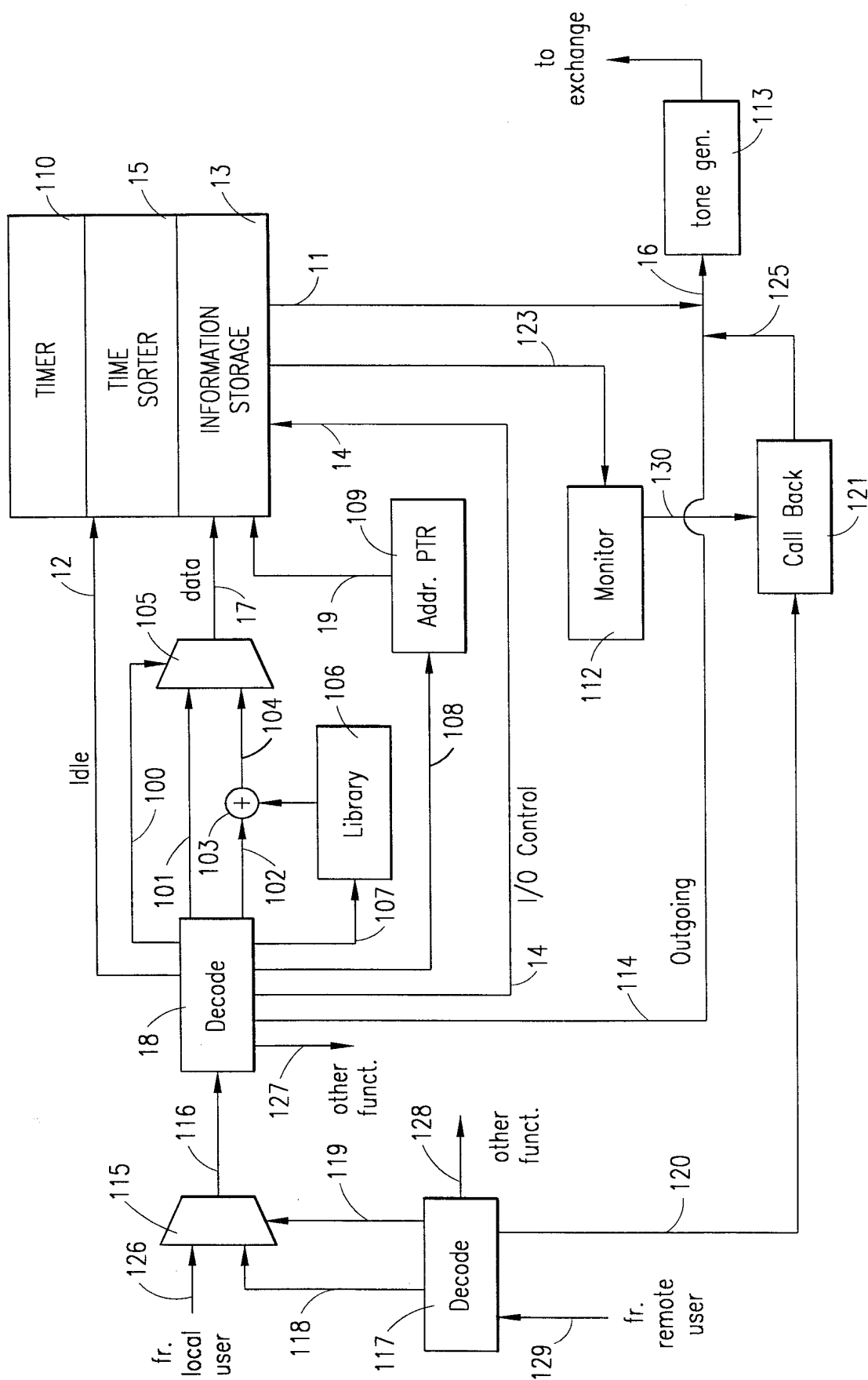
FIG. 1

FIG. 2

FIG. 3

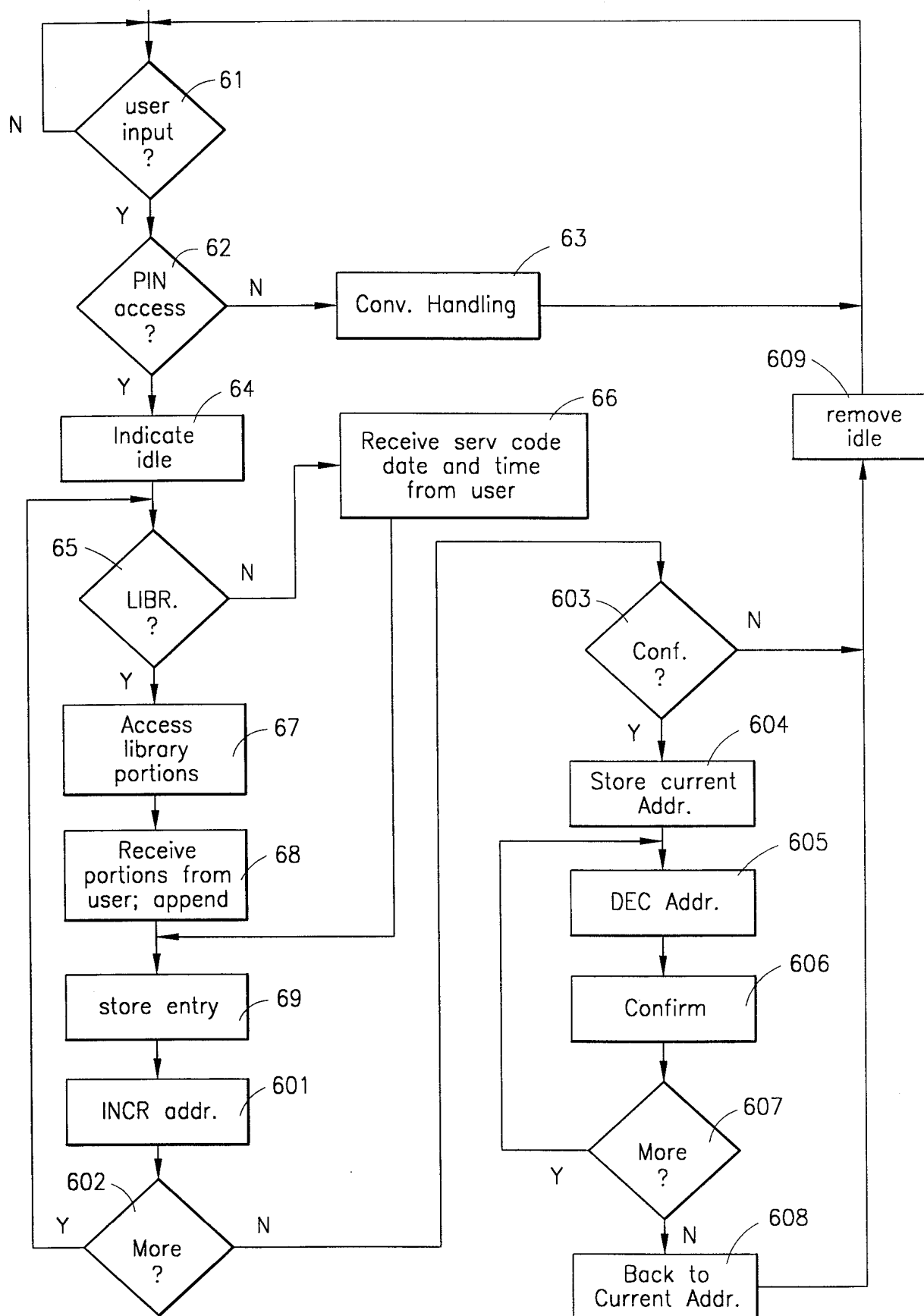| Service	Time	Date

FIG. 4

Call forward to dest.	08:00	7/16/98

FIG. 5

FIG. 6

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FIG. 7
SUBSTITUTE SHEET (RULE 26)

INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6   H04M3/42   H04M3/54   H04M1/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6   H04M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 576 364 A (FRANCE TELECOM) 29 December 1993 (1993-12-29) column 4, line 11 -column 6, line 18 column 7, line 39 - line 42 claims 1-10	1-30
X	US 4 475 009 A (RAIS ELLIOT ET AL) 2 October 1984 (1984-10-02) column 1, line 45 -column 2, line 50 column 6, line 31 - line 48 claims 1-27	1-30
X	EP 0 428 448 A (FRANCE ETAT) 22 May 1991 (1991-05-22) the whole document	1-6, 16-21

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| X | Further documents are listed in the continuation of box C. | | X | Patent family members are listed in annex. |

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

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"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such docu- ments, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
28 October 1999	05/11/1999

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Chassatte, R

Form PCT/ISA/210 (second sheet) (July 1992)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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1

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